

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method of transmitting an optical beam, comprising:  
modulating an optical beam to encode information through use of an  
electroabsorption modulator (EAM) that receives ~~a single~~ an electrical input signal;  
monitoring the encoded optical beam to measure a harmonic value; and  
upon detection of the harmonic value, adjusting the electrical input signal  
provided to the EAM based upon the measured harmonic value.
2. (Original) The method of claim 1, further including sampling the encoded  
optical beam to measure the harmonic value.
3. (Original) The method of claim 2, further including sampling the encoded  
optical beam with a photoreceiver.
4. (Original) The method of claim 1, further including splitting the encoded  
optical beam to provide a sample signal and measuring the harmonic value of the  
sample signal.
5. (Original) The method of claim 1, wherein the harmonic value is measured  
for a second order harmonic.
6. (Previously Presented) The method of claim 1, further including:  
encoding a pilot signal onto the optical beam;  
monitoring the pilot signal; and  
adjusting the electrical input signal based upon the measured harmonic value  
detected in the pilot signal.

7. (Previously Presented) A method for transmitting information in an optical communications system, comprising:

forming an output optical beam having a pilot signal component having a frequency that is outside a signal band range of an information signal component provided to have information encoded thereon;

encoding information onto the information signal component of the output optical beam through use of an electroabsorption modulator (EAM);

monitoring the pilot signal component output from the electroabsorption modulator (EAM) to determine the magnitude of a harmonic;

correlating the magnitude of the harmonic with an optimum electrical signal value to be input to the EAM to reduce the magnitude of the harmonic; and

adjusting an electrical input to the EAM to equal the optimum electrical signal value.

8. (Previously Presented) The method of claim 7, wherein the method includes measuring the pilot signal component to determine the magnitude of a harmonic produced by encoding a pilot signal with the EAM.

9. (Canceled).

10. (Original) The method of claim 7, further including sampling the harmonic through use of a photoreceiver.

11. (Original) The method of claim 10, further including adjusting the electrical input to minimize the second order harmonic based upon the sampled harmonic.

12. (Original) The method of claim 7, wherein adjusting the electrical input includes adjusting the electrical input signal within a set of voltages corresponding to a range of values around a minimum harmonic value.

13. (Currently Amended) A computer readable medium having program instructions to cause a device to perform a method, comprising:

modulating an optical beam to encode information through use of an electroabsorption modulator (EAM) provided with ~~a single~~ an electrical input signal;  
monitoring the encoded optical beam to measure a harmonic value; and  
upon detection of the harmonic value, adjusting the electrical input signal provided to the EAM based upon the measured harmonic value.

14. (Previously Presented) The computer readable medium of claim 13, further including tracking a correlation of the harmonic value and the voltage level of the electrical input signal to determine a voltage input level that correlates to a lowest occurrence of the harmonic.

15. (Previously Presented) The computer readable medium of claim 13, further including applying an adjusted biased electrical input signal component to the input optical beam based upon the determined electrical input level that correlates to the lowest occurrence of the harmonic.

16. (Previously Presented) The computer readable medium of claim 13, further including adjusting the electrical input signal to minimize the harmonic.

17. (Previously Presented) The computer readable medium of claim 13, further including adjusting the biased electrical input signal component to limit the harmonic to within 5% of a lowest occurrence of the harmonic.

18. (Currently Amended) An optical transmission system, comprising:

an electroabsorption modulator (EAM) configured to encode information in an optical beam and to modulate the optical beam according to ~~a single~~ an electrical input signal; and

a monitoring component configured to measure a harmonic value in the encoded optical beam and to calculate an adjustment in the electrical input signal, to be applied to the EAM so as to reduce the measured harmonic value.

19. (Original) The optical transmission system of claim 18, wherein the monitoring component is configured to measure a harmonic value of a second order harmonic.
20. (Original) The optical transmission system of claim 18, wherein the monitoring component is a signal processing card.
21. (Original) The optical transmission system of claim 18, wherein a photoreceiver is positioned to receive an output optical beam from the EAM.
22. (Original) The optical transmission system of claim 21, further including an optical splitter to split the output optical beam and to direct a sample signal to the photoreceiver.
23. (Original) The optical transmission system of claim 22, wherein the sample signal is 1% of the output optical beam.
24. (Original) The optical transmission system of claim 23, wherein the photoreceiver is positioned to receive the sample signal.
25. (Previously Presented) The optical transmission system of claim 18, further including an adjustment module operable to adjust the electrical input signal based upon changes in ambient temperature.
26. (Previously Presented) The optical transmission system of claim 18, further including an adjustment module operable to adjust the electrical input signal based upon changes in device generated temperature.
27. (Previously Presented) The optical transmission system of claim 18, further including an adjustment module operable to adjust the electrical input signal in

greater amounts as the harmonic trends away from a lowest occurrence of the harmonic.

28. (Previously Presented) The optical transmission system of claim 18, further including an adjustment module operable to adjust the electrical input signal in lesser amounts as the harmonic trends toward a lowest occurrence of the harmonic.

29. (Original) The optical transmission system of claim 18, further including an optical source for providing the optical beam to the EAM.